

1 **WHAT IS CLAIMED IS:**

2 1. A method for driving an electrophoretic display (EPD), wherein the
3 EPD comprises two opposite substrates each has electrodes, fluid between the
4 two substrates, colored charged particles suspended in the fluid and reflective
5 and transmissive areas defined on one of the two substrates or on the two
6 substrates, comprising:

7 applying positive and negative electric potentials respectively to the
8 electrodes to collect the colored charged particles to the reflective or
9 transmissive areas to control whether front light is reflected by the reflective
10 areas or whether backlight passes through the two substrates.

11 2. The method as claimed in claim 1, wherein the two opposite
12 substrate are named a first substrate and a second substrates and each substrate
13 has an inner face and outer face, wherein the electrodes formed on the inner
14 face of the first substrate are first electrodes and the electrodes formed on the
15 inner face of the second substrate are second electrodes, comprising:

16 applying the positive or negative electric potential to the first electrodes
17 to collect the colored charged particles on the first electrodes defined the
18 reflective areas to control whether the front light radiated to the first substrate is
19 reflected by the reflective areas or not.

20 3. The method as claimed in claim 1, wherein the two opposite
21 substrate are named a first substrate and a second substrates and each substrate
22 has an inner face and outer face, wherein the electrodes formed on the inner
23 face of the first substrate are first electrodes and the electrodes formed on the
24 inner face of the second substrate are second electrodes, comprising:

1 the transmissive areas defined on the second substrate by the second
2 electrodes, whereby adding the positive or negative electric potential to the
3 second electrodes collects the colored charged particles on the transmissive
4 areas to whether the backlight passes through the transmissive areas.

5 4. The method as claimed in claim 3, further comprising forming third
6 electrodes that are respectively formed on the corresponding transmissive areas
7 of the second substrate, wherein applying the negative or positive electric
8 potential to the second or third electrodes to control whether the colored
9 charged particles are collected to the second or third electrodes or not.

10 5. The method as claimed in claim 4, wherein each third electrode is a
11 reflective electrode having a transmissive area that is corresponding to the
12 transmissive area on the second substrate.

13 6. The method as claimed in claim 4, wherein each third electrode is a
14 transparent electrode as a transmissive area, wherein applying the positive or
15 negative electric potential to the third electrode to control whether the colored
16 charged particles collect to the third electrode or not.

17 7. The method as claimed in claim 2, further comprising forming third
18 electrodes on the transmissive areas that are defined on the first substrate by the
19 first electrodes, whereby the positive or negative electric potential is applied to
20 the third electrodes to control whether the colored charged particles collect to
21 the third electrodes or not.

22 8. The method as claimed in claim 3 further comprising adding a
23 reflective layer between the second electrodes and the second substrate.

24 9. The method as claimed in claim 8, wherein the reflective layer

1 further has an upper face and a transmissive area that is corresponding to the
2 transmissive area on the second substrate, wherein the upper face is processed
3 to be a diffusive or random wave shaped to provide a light scattering capability.

4 10. The method as claimed in claim 1 wherein the colored charged
5 particles are composed of microcapsules each has a transparent capsule,
6 negatively and positively charged colored particles in the transparent capsule
7 and a clear or colored fluid is in the transparent capsule.

8 11. The method as claimed in claim 1 wherein the colored charged
9 particles are composed of rollers each has two colored hemispheres that
10 respectively have a positive electric charge and a negative electric charge.

11 12. An electrophoretic display (EPD), comprising:
12 two opposite substrates with electrodes;
13 colored charged particles are between the two opposite substrates; and
14 reflective and transmissive areas are defined on one of the two opposite
15 substrates or both of them by the electrodes, wherein some of the electrodes are
16 corresponding to the transmissive areas.

17 13. The EPD as claimed in claim 12, wherein the two opposite
18 substrate are named a first substrate and a second substrates each has an inner
19 face and an outer face, wherein the two inner faces are faced each other and the
20 electrodes are formed on the inner face of the first substrate are first electrodes
21 and the electrodes are formed on the inner face of the second substrate are
22 second electrodes.

23 14. The EPD as claimed in claim 13, further comprising two opposite
24 walls each is formed on two opposite sides of each second electrode and is

1 higher than the second electrode.

2 15. The EPD as claimed in claim 12, wherein the transmissive or
3 reflective areas are defined on the opposite substrates and the some electrodes
4 are formed on the corresponding areas.

5 16. The EPD as claimed in claim 13, further comprising a reflective
6 layer that is formed between the second electrodes and the second substrate and
7 has an upper face and a transmissive area that is corresponding to the
8 transmitting area on the first substrate, wherein the upper face is processed to a
9 diffusive or random wave shaped to provide a light scattering capability.

10 17. The EPD as claimed in claim 12, wherein the colored charged
11 particles are composed of microcapsules each has a transparent capsule,
12 negatively and positively charged colored particles in the transparent capsule
13 and a clear or colored fluid is the capsule.

14 18. The EPD as claimed in claim 12, wherein the colored charged
15 particles are composed of rollers each has two colored hemispheres that
16 respectively have a positive electric charge and a negative electric charge.

17 19. The EPD as claimed in claim 12, wherein the colored charged
18 particles are single color and have positively charge or negatively charge.

19 20. The EPD as claimed in claim 13, wherein each first electrode is
20 covered one whole pixel area of the first electrode and each second electrode
21 has at least two second electrode layers.

22 21. The EPD as claimed in claim 13, wherein each first electrode has at
23 least one first electrode layer and each second electrode is covered one whole
24 pixel area of the second substrate.

1 22. The EPD as claimed in claim 13, further comprising a backlit
2 module that is mounted on the outer face of the second substrate.

3 23. The EPD as claimed in claim 13, further comprising a front light
4 module that is mounted on the outer face of the first substrate.

5 24. The EPD as claimed in claim 13, wherein the first and second
6 substrates are made of the glass, plastic or stainless steel material.

7 25. The EPD as claimed in claim 12, wherein the some of the
8 electrodes are driven by a static driving circuit.

9 26. The EPD as claimed in claim 12, wherein the some of the
10 electrodes are driven by an active driving circuit.